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CONSERVATIONIST

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Governor of Louisiana

F. L. CLEMENT
Director

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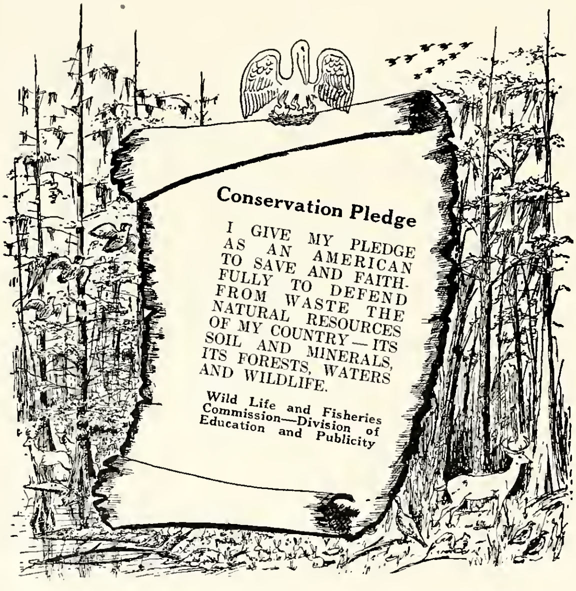

Conservation Pledge

I GIVE MY PLEDGE AS AN AMERICAN TO SAVE AND FAITHFULLY TO DEFEND FROM WASTE THE NATURAL RESOURCES OF MY COUNTRY—ITS SOIL AND MINERALS, ITS FORESTS, WATERS AND WILDLIFE.

Wild Life and Fisheries Commission—Division of Education and Publicity

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Vol. 11, No. 2

EDITORIAL

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POINTER

—Photo by Edouard Morgan

By F. Lamar Clement, *Director*

Louisiana Wild Life and Fisheries Commission

COUNT THY BLESSINGS . . . that oft used phrase might be altered a little in our state to read "Fishermen and Hunters, Count thy Blessings" for we in Louisiana have been endowed with a wealth of natural resources of the waters and field second to no other section of our country.

In dollars and cents outlook the state's commercial fisheries industry represents an estimated outlay on equipment of $85,000,000 and employs directly 37,000 or more persons. The overall picture embracing allied industries connected with the commercial fishing industry shows a total value of $266,000,000 invested in equipment and the employment of 304,000 persons.

F. LAMAR CLEMENT

Most valuable of the state's seafood harvests is the shrimp crop with a usual annual take of around 300,000 barrels valued in excess of $20,500,000, however, the 1957-58 harvests have been below this mark and the commission has adopted strict measures to return shrimp production to its former peak years. In this phase of the industry there are more than 3,500 trawl boats presently operating in Louisiana waters.

Louisiana oysters, developed through cultivation from the wild reef oysters, have been declared second to none. For more than half a century the Wild Life and Fisheries commission has maintained a special department devoted entirely to the biology and cultivation of the oyster. True-parasites, disease and pollution, have stricken our oyster reefs but this does not mean that the commission's scientists have for one moment let up on their fight for a comeback of our famed oysters. Even so, last year's crop was around three quarters of a million barrels and its value was set at around $4,500,000 to the producers.

About 80 boats comprise the fleet of Louisiana's comparatively new menhaden industry, which last year produced oil and meal valued at an estimated annual value of between 11 and 12 million dollars to the producers. Every year Louisiana waters yield thousands of tons of a very large variety and superior quality menhaden. The fishing industry is worth approximately $5,000,000 annually to fresh and salt water seafood producers, and the state's outside waters abound with speckled trout, red fish, sheepshead, croaker, red snapper, mackerel, mullet and drum besides such game fish as tarpon, amberjack, albacore, marlin and others. There are also the famous Louisiana crabs and sea turtles. Last year's catch of hard-shelled crabs and picked crabmeats amounted to more than 7,600,000 pounds valued at $785,000 and second on the list was the famous Louisiana soft-shelled crab which is quick frozen and shipped practically everywhere. Total poundage was 1,000,000 pounds valued at $275,000.00.

Freshwater commercial and sports fishing in Louisiana's 4,000,000 acres of freshwater is constantly maintained by a long-range freshwater fisheries program set up by the commission in order to obtain equitable and maximum harvest compatible with production. The aim has been to increase production in areas where development practices are applicable, and to develop isolated waters by making them more accessible to the public. Last year freshwater commercial fishermen produced approximately 12,000,000 pounds of fish worth a total of more than $3,000,000. Fish crops topping the $100,000 annual mark are Catfish, Gaspargou, Buffalo, Crawfish, and baby pet turtles.

It has been estimated that twenty-two percent of the people, men, women and children, engage in the sport of fishing and 11 percent in hunting in our state. Hunting and fishing in Louisiana has been valued at $250,000,000 annually monetarily speaking. While we cannot estimate intangibles, we do know that these sports are indispensible to the health and well-being of the general populace of our state or at least to the 900,000 people who go afield and afloat each year. Sportsmen spend around $60,000,000 each year and this figure alone rings many cash registers in Louisiana. Approximately 25,000 craft of all kinds are registered out of the New Orleans area alone and it has been estimated that there are 137,000 outboard motors in use in our state at the present time.

Estimates show that the typical hunter throughout the United States averaged an expenditure of $91.98 per year; hunts eight and one-half days, takes five and one-half trips, and drives an average of 206 miles.

The fisherman spends $79.49; spends nine and one half days fishing, takes 8 trips and drives 319 miles. The whole total for the nation averages half a billion days of recreation. These averages were arrived at a number of years ago as a result of a national survey by the U. S. Department of the Interior conducted by the Fish and Wildlife Service and we are quite sure that there has been an even greater increase since that extensive survey was made.

These are, of course, only part of the figures and they are merely figures. We have, in our records, figures to a penny of what it costs to maintain and protect our wildlife. However, in these days of the rapid increase of human populations, of growing tensions and generally recognized need for recreation, the importance of hunting and fishing in our economy, and in our way of life, cannot be valued entirely in dollars and cents.

The fact that Louisiana has been God-endowed with such great wildlife resources coupled with the fact that there are thousands of sportsmen and commercial fishermen in our state who are willing and eager to help our designated authorities protect and maintain our wildlife cannot be valued in dollars and cents and is indeed a blessing.

So we say again, in Louisiana, "Fishermen and Hunters, Count Thy Blessings."

SHRIMP COMEBACK

By Percy Viosca, Jr.

Marine Biologist, Seafood Section

NOT SINCE THE DEEP sea fishing boats began to tap the offshore populations of jumbo shrimp in earnest, has the total shrimp catch from the Louisiana area been as low as in 1957. The harvest of only 38 million pounds that year is comparable to the production prior to 1934, in the days of small shrimp boats which operated largely in inside waters.

With the advent of deep sea trawlers, the Louisiana shrimp-catch figures gradually jumped from around 35 million pounds to double and triple that figure. After 1936, the catch fluctuated above 75 million pounds, reaching a peak of more than 116 million pounds during 1941. There was another high peak in 1944 and a secondary peak in 1954; then something popped. The catch declined rapidly after 1954, reaching the all time low of recent years in 1957. Then everybody interested in shrimp began to sit up and take notice, with the result that the 1958 legislative session gave us a new shrimp law, one of the biting kind with teeth in it.

I have already discussed[1] the many factors which have been blamed for the recent decline in white shrimp production. Two of these stand out above all others: OVERFISHING, which may have upset the balance of nature to the disadvantage of the white shrimp; and the serious DROUTH in the Mississippi river drainage area which began during the summer of 1952 and continued without abatement until early in 1957, causing serious salt water intrusions which drastically altered the coastal environments to the disadvantage of the white shrimp and in favor of the so-called brown and pink species.

Whatever the basic cause or causes of the white shrimp decline and whether natural or man-made, or a combination of both, it seems that while the drouth lasted, the highly saline coastal environments formed a barrier between the spawning grounds of the adults out in the Gulf and the areas of low salinity. It is probable, then, that not enough young shrimp were able to penetrate the unfavorable barrier to reach the best nursery grounds. But with the end of the drouth cycle in the spring of 1957, the coastal waters were freshened once more and again restocked with nutrients from the land. Judging by the changing character of the bottom organisms, the white shrimp nursery environments have made a wonderful comeback. But what about the shrimp?

Unfortunately, fishery statistics never come in fast enough to satisfy biologists. Sometimes many months elapse before they can be compared and evaluated. A further complicating factor is the new shrimp law and its rigid enforcement. Although deemed necessary as a management tool by the industry, fishery administrators, sportsmen and biologists alike, it has increased the difficulty of interpreting the statistics.

Although the final figures for the 1958 shrimp catch are not yet available, we have received a valuable report from Charles H. Lyles of the Bureau of Commercial Fisheries of the U. S. Fish and Wildlife Service which we can analyze to some extent at this time. The tabulations were made by Peter DiMarco of the Market News Service of that bureau and show the "Louisiana Shrimp Landings" for 1956 through 1958 for all species entering our fishery in commercial quantities.[2]

Miller M. Fairman of our staff has expressed graphically DiMarco's tabulations for the two principal shrimp species, and these graphs are included herein as figures 1 and 2, respectively. A glance at the graphs will show that each species presents a characteristic pattern, basically the result of its natural biological cycle of seasonal abundance and sparcity.

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[1] Viosca, "What became of the white shrimp" Louisiana Conservationist, July-Aug., 1958, and "Is the sea inexhaustible" Louisiana Conservationist, December, 1958.

[2] Figures compiled after July 1958 are subject to revision.

We see, for instance, that every year during July, the white shrimp (fig. 1) shows a marked seasonal scarcity in the commercial fishery as compared to the months before or after. Actually great quantities of very small white shrimp without commercial value enter inside waters as early as June and usually congregate in waters too shallow for trawling. As they grow and seek deeper water, the legal size limit and closed season, plus a certain amount of escapement in any possible illegal catches, all tend to mitigate against their exploitation.

After the shrimping season legally opens in the middle of August, the fast-growing juvenile white shrimp are trawled heavily; at first by small nets operating in shallow water, then as they return to sea, they must run a gauntlet against successively larger nets. After July the white shrimp graph takes the form of an offset skyscraper. The peak comes in October when the large adolescent individuals returning to the sea tend to concentrate in the channels leading thereto and in the sea itself outside the passes. These "season shrimp", as the fishermen call them, are the big money crop, that which makes or breaks fisherman, dealer and processor alike.

With the advent of cold weather, usually around the first of November, there is a heavy seaward migration. However, some of the smaller shrimp remain in inside waters where they hibernate in the bottom mud and growth ceases. These factors, together with severe weather and the early spring closed season, bring about a second low point in the white shrimp catch which centers around February or March. Growth and activity are resumed as the waters warm, and the catch rises to a secondary peak which usually centers around the month of May. Such white shrimp are known to the trade as "spring shrimp".

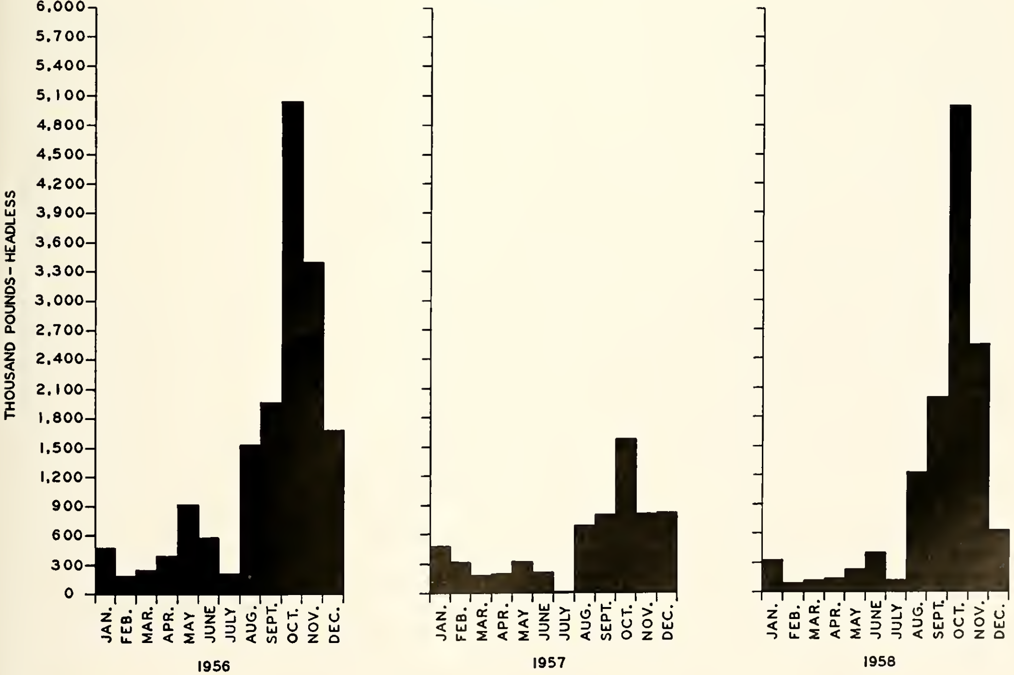
Also by spring, the fall or "season shrimp" from the preceding year have reached sexual maturity out in the Gulf and produce the run of eggs which develop into the big money crop of that same summer and fall. Individuals of the "spring shrimp" peak do not mature until later in the summer, and apparently give rise to a second large wave crest of small shrimp which invade the inside waters in August and September and produce the "spring shrimp" of the following year. Thus, the white shrimp crop is an annual one, with two crests. Approximately five months elapse from egg to adolescence, perhaps four months from the first signs of adolescence to fully mature spawners, and approximately three months, sometimes more, for winter inactivity. Exceptions to those general statements do not figure prominently in the commercial fishery.

If we compare the white shrimp graphs for the three years figured, we can see clearly that there was a commercial failure of the "money crop" in 1957. It is also clear that there was considerable recovery

LOUISIANA SHRIMP LANDINGS

WHITE SHRIMP

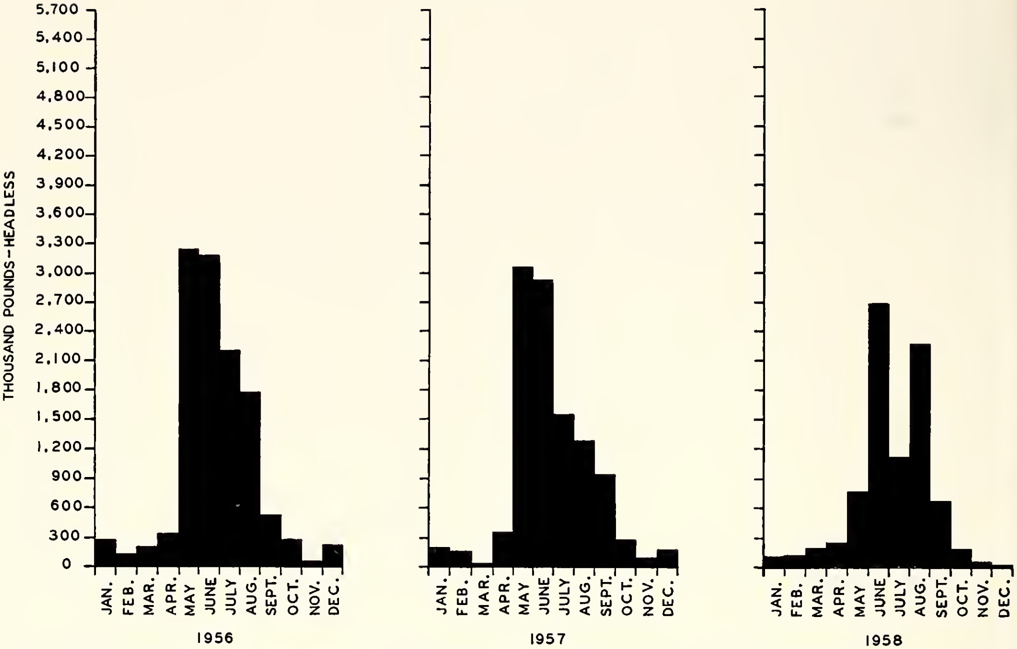
(Fig. 1)



LOUISIANA SHRIMP LANDINGS

BROWN SHRIMP

(Fig. 2)



in 1958, the fall harvest of that year approaching that of 1956. Although recovery was confined largely to the second half of 1958, there was some indication of it already in June, just before the closed season went into effect, when a small wave of commercial-sized shrimp made an early appearance ahead of the normal season.

Speculating on the separate effects of the two chief variable factors in bringing about this recent substantial recovery of the white shrimp population from which this harvest was drawn, your guess is as good as mine. Suffice it to say that the larger crop of 1958 was gathered during a shorter interval because fishing pressure on the nursery ground stocks during July and early August, 1958, was at an all time low due to rigid enforcement of the new shrimp law as a result of popular demand. In view of these circumstances, it seems inconceivable that the increased white shrimp landings for the period as a whole were not, in part at least, the result of this protective management. At any rate, with the shrimp unmolested during their period of fastest growth, a catch 2.7 times as large was harvested at a later date with about half the fishing effort.

The brown shrimp graphs (fig. 2) tell a different biological story. Only a single sky-scraper effect is produced each year and each has a broader base than those of the white shrimp. This is probably due to the fact that brown shrimp adults live in deeper water where the winter temperatures are warmer, and they spawn earlier than white shrimp adults which tend to remain in shallower colder waters. Very small brownies enter inside waters earlier in spring and later in the fall than similar young of the white species. Furthermore, the brown shrimp invasion throughout the warmer months is relatively continuous rather than in two major waves.

The effect of the enforced closed season is strongly reflected in the brown shrimp graph for 1958, as compared to the other two years. Although the total annual brown shrimp landings showed a steady decline as the water freshened up after 1956, nevertheless, the July through September catch was actually larger in 1958 than in 1957.

What the above analysis means is that the fishermen produced enough brown shrimp during the summer-fall open season in 1958 to more than make up for their deficit during the summer closed season. This slightly increased brown shrimp catch is in addition to the 2.7 times increase in white shrimp production during the same period.

Considering the two species combined, approximately twice the tonnage was produced with about half the effort and expense in 1958 immediately after the season opened as compared to 1957. The result was about four times the tonnage and perhaps five times the value for the same unit of effort.

Even if we evaluate 1958 against 1956, it was a gain for the fishermen, because the comparable summer-fall harvests of those years were produced for about half the effort and expense in 1958 as compared to 1956.

So the white shrimp comeback, so far, is interesting and profitable, to say the least.

The Fussbudget

CAROLINA WREN

Thryqthorus Ludovicianus Ludovicianus

By Hannah Yates

The Carolina Wren, a common and permanent resident of Louisiana, also known as the Louisiana Wren, is one of the most pert and saucy birds in North America.

The plumage of this chunky and larger member of the wren family is redder above than that of the other species and dull white below with a conspicuous white streak over the eye; its flanks are of a duller buff color. It is characterized by its tail which is often held almost vertical and which it uses freely for gesticulation. Its length is about 5¾ inches.

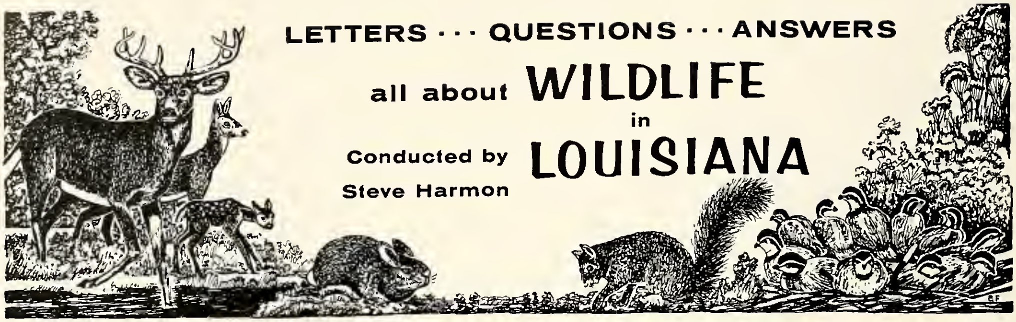
Woodland thickets, tangled undergrowth and half decayed tree stumps are its favorite haunts, however, like its smaller cousin the little house wren, this one species is sometimes seen near dwellings in some localities yet in other sections it shows little tendency to adapt to people and seems rather shy. While it displays a customary tendency towards cavities for nesting, occasionally it will build its nest in low trees and matted vegetation and take to nooks and crannies about man made structures. Often an old wash basin or grape basket may be put into service as a cradle for its young where four to six whitish eggs heavily spotted with browns and pink are deposited in a clutch.

For the nest it uses such materials as grasses, bark, leaves, weed-stalks, moss, snake skins and lines the whole with hair, feathers and a conglomeration of other soft scraps.

Its constant motion, nervous activity, excitability and curiosity attributed to all wrens from time immemorial is not unlike the proverbial "Jenny's Fidgety Husband" and our Mr. Wren sings all the year round and in any kind of weather. Its notes sound something like, *tea-kettle, tea-kettle, tea-kettle,* and the strong clear tones always give the impression that they are coming from a bird twice its size.

The carolina wren is regarded as one of our most important birds because of its disposition to destroy the dreaded boll weevil which it captures and devours during the weevil's period of hibernation in the thickets that are littered with fallen timber and spanish moss and debris. Its diet also includes wild berries, seeds of poison ivy and many destructive plants and insects. Besides the boll weevil the carolina wren also includes in its diet the cucumber beetle, crickets, grasshoppers, flies and ants and a few spiders, lizards, tree frogs and an occasional small snake is sometimes eaten.

One of the best ways to attract and observe these happy bird citizens is to sit still and blow a squeaking noise with the lips pressed to the back of one's hand. Before long our subject will appear bobbing up and down, waving its tail and scolding, eager to see what's going on . . . it's lots of fun . . . try it sometime.



LETTERS · · · QUESTIONS · · · ANSWERS

all about WILDLIFE in LOUISIANA

Conducted by
Steve Harmon

Dear Editor:

I thought that you might be able to use this photo taken on Christmas eve of my son, Bob Davis of Houma, who is shown with the 1958 daily bag limit of canvasbacks taken in the Lake Theriot, Terrebonne Parish area. Canvasbacks were late to arrive in this area and were relatively scarce this year.

W. J. Davis
Box 446
Houma, Louisiana

Little sportsman with big ducks!

Rt. 1, Box 44
Glenmora, Louisiana

Dear Editor:

Will you furnish me with this information?

1. About what time do the birds and geese begin to migrate from Avery Island?

2. At what time in the Spring is best for a visit to the Sanctuary for sight seeing of birds and flowers?

3. Is there someone on duty to show people through the Sanctuary?

4. Is there a fee charged for going through the Sanctuary?

Thanks for the above information.

Very truly yours,
P. M. Johnson

Mr. Steve Harmon has forwarded us your letter of January 6th. Our thoughts on the questions which you asked are as followss—

1. *The ducks and geese will begin migrating from the Avery Island area late this month. and will continue to do so into early Spring. Avery Island itself is, of course, not a duck and goose center but these birds are abundant in the surrounding marshes.*
2. *Spring is the best time to visit the Heron Sanctuary on Avery Island for the birds begin nesting in mid-March. Also the Spring blooms should be at the heights in the Gardens at this time.*
3. *There is no one on duty to show anyone through the Sanctuary. However, the Sanctuary is quite small and may be easily viewed from several places on the bank.*
4. *There is a $1.12 charge per person to visit the Jungle Gardens and Heron Sanctuary.*

Sincerely yours,
Edward M. Simmons
Vice-President
McILHENNY COMPANY

Dear Editor:

In the February or March issue of your publication, we would appreciate an announcement of the Twenty-second Annual Short Course for Superintendents and Operators of Water and Sewerage Systems which will be held at Louisiana State University on March 18, 19, 20, 1959.

We would like to take this opportunity to thank you for the publicity you have given our meetings in the past.

Very truly yours,
Fred H. Fenn, Dean
College of Engineering and
Director, Engineering Experiment Station

Happy to be of assistance to the Number One University in the Nation! And to the Water and Sewerage boys.

548 Lloyd Street
Barberton, Ohio
December 29, 1958

Dear Mr. Harmon:

About 20 miles south of Cleveland, Ohio, along the new route 21, a strange bird was sighted by my father. He had never seen anything like it before. This was in early November. The bird was white, had a long neck, and long legs. It was sighted for about every day for two weeks, then disappeared. The only lake nearby was the Barberton Reservoir, a fairly large reservoir, which was about five miles from where the bird was sighted. Can you tell me what kind of bird it was, or at least take an educated guess?

Truly yours,
John Taylor, Jr.

P. S. I like your magazine very much, and am looking forward to receiving the next issue.

From your partial description your father possibly sighted one of the few remaining Whooping Cranes. According to the Department of Interior there are 41 Whoopers in existence today. Nine young Whoopers are reported to be wintering on the Aransas National Widlife Refuge. According to records of the Bureau of Sport Fisheries and Wildlife, 1958 was a banner hatching year for the Whooping Crane and the population is on the increase. There are, at present, two adults and three young Whoopers at the Audubon Park Zoo in New Orleans. Glad you enjoy the CONSERVATIONIST!

Steve Harmon

Port Sulphur, La.
December 16, 1958

Dear Editor:

I do not know if you will remember me but I am the boy who was with you on the Plaquemines Parish 4H trip at the mouth of the Mississippi river in 1957. I am the boy you gave the flash bulbs to so I could take pictures.

I wrote to you after that and asked you if it would be all right to send you pictures for the LOUISIANA CONSERVATIONIST and you wrote me and said yes that I could send you pictures you could use in the magazine.

I saw a picture of the Rice Queen in one of your past magazines, so I'm sending you one of our Orange queen that I took. Surely hope you can use it. We will all be happy about it. I have been waiting to get a good picture that you could use.

Thanks very much.

Sincerely yours,
Lee Roy Simmons

Miss Linda Marie Sullivan of Buras, 1958 Queen of the Orange Festival.

Dear Editor:

Attached is a snap shot that I feel is worthy of printing in your magazine.

Shown is Roland Couvillion of Alexandria, La. with his limit of 15 large mouth bass caught "somewhere in Avoyelles Parish" on a hell-diver. The 15 weighed a total of 41½ lbs.

I hope you can use the photo.

Very sincerely,
Paul K. Adams

We can! But what we want to know is: Where is "Somewhere in Avoyelles Parish?"

Dear Editor:

I hear that there are several kinds of natural duck feed that can be planted, in accordance with the law, to attract water fowl. If this is true, I would like to know what they are, and how I can obtain and plant, same. As we have beautiful duck ponds, but no ducks.

I would also like to get the full particulars about tagging ducks, when making a two day hunt.

Sincerely yours,
Mr. C. C. Monnerjahn, President
East Jefferson Hunting Assoc.
613 Tucker Avenue
New Orleans 21, Louisiana

Most waterfowl areas can be improved through proper management procedures, however, benefits are seldom realized from the single process of sowing the reproductive parts of natural duck food plants. Hundreds of planting attempts have been made in Louisiana but virtually all have resulted in complete failure. Most old established water areas are already supporting the type of plant communities that they are capable of producing. Once this climax vegetative condition has been reached it is useless to hope that new plant types can be established by simply tossing in seed, etc. by hand.

If control can be gained over water levels and water conditions, most areas can be improved by producing and making available desirable waterfowl food plants. This is, of course, more expensive than a planting program but results can be obtained.

Since no two water areas are alike it would be impossible to outline one management approach here that would cover all types of situations. Only after a detailed field survey of the problem area involved can a proper management plan be devised. For further advice along this line consult with one of the Louisiana Wildlife and Fisheries Commission district wildlife biologists located at Monroe, Minden, Alexandria, Opelousas, Ferriday, Baton Rouge or New Orleans, who is located nearer to you.

Richard K. Yancey

Dear Mr. Harmon:

A Junior Sportsmen's League has recently been organized in Pointe Coupee Parish in connection with a Unit on Health and Safety studied in our school, and under the direction of the Pointe Coupee Sportsmen's League. Since many of the young people in our area do a great deal of hunting much interest has been aroused. Points on safety in the woods, sportsmanship in hunting, game laws and the safe use and storage of firearms in the home, among other topics, have been discussed by the group.

I am interested in getting as much publicity on this as possible. Will you please advise if it is possible to have an article published in the LOUISIANA CONSERVATIONIST and what procedure should be followed.

Yours truly,
(Mrs.) Ethelyn D. Fairchild
Adviser

We would like to see Junior Sportsmen's League groups in all of Louisiana's 64 parishes. Send us the news of your group meetings, outings, etc. and we'll be glad to print in the LOUISIANA CONSERVATIONIST. Other parishes take note.

Steve Harmon

DOG UP A TREE!

Jack Petitfils—(He pronounces it pete-feece) a plumber, of 1537 Clouet Street in New Orleans, dropped in the Commission's headquarters to bring this picture and his story. It seems that Petitfils and a group of hunters were out after coons with their dogs at Poydras in St. Bernard Parish on Tuesday, January sixth and one of the dogs, the one seen above, named "Red" and who is a Red-Bone Coon dog got ahead of the pack.

When the hunters got up to the old cypress tree where Red was seen last they saw 60 feet up in the top of the tree what they thought to be two coons. Finally they recognized the second animal to be "Red". It seems that there were small cypress branches on the first fifteen feet of the tree and then the tree made an arch and "Red" had gone right on after the coon and had pursued it to the tip branches where he could go no further. The men shot the coon and when it started falling to the ground "Red" bailed out after him. "When the dog hit the ground it looked like he bounced. Then he started for the wounded coon and suddenly passed out. We brought him to the veterinary and he was found to have a broken leg and will recover", Petitfils says.

As witnesses to this strange climbing feat Petitfils names his fellow hunters Emile Sugasti, Eugene Russo, Daniel Costello and two out of state hunters Dewey Lee Frank of Tennessee and Gale E. De Vore of Illinois.

Dear Editor:

While Wood Duck hunting my brother found a beaver lodge in a pond on the Tangipahoa River. I would like to know are beaver lodges very common in Louisiana and if there have been very many reports on them.

Yours very truly,
Jim Bishop

Generally speaking, the beaver in Louisiana is a "bank dweller". Beavers in this state establish dens in the banks of streams and rivers more often than they build lodges. However, beaver lodges are not considered to be uncommon.

John D. Newsom

* * *

WYOMING DEER IN UNUSUAL STORY

Two Wyoming Game and Fish Department employees recently observed an unusual wildlife occurrence, according to information given the National Wildlife Federation. The men were driving an elk herd by airplane when they spotted a buck deer dragging something from his antlers. They landed the ariplane and proceeded on foot to the animal. It apparently had been fighting another buck when their antlers became locked. One deer died. Coyotes came upon the scene and devoured the dead deer right up to the ears. The live deer was dragging the head, hide and hind legs of its antagonist. The men relieved the burden and the deer trotted off, apparently unharmed.

* * *

DUCK SURVIVES MANY GUN SEASONS

A mallard drake banded on the Tennessee National Wildlife Refuge Nov. 21, 1949, was killed Oct. 14, 1958, on Roy Lake in Minnesota, almost nine years later, the National Wildlife Federation reports.

HELP ERVIN!

Ervin Mancil is investigating the cypress industry of Louisiana, roughly for the years 1880 to 1950. He needs information on logging methods, mill operations, cypress towns, woods and mill labor, and most everything else having to do with the industry. He would also like to find old pictures of operations around the mills and in the woods, maps of pull-boat and railroad logging, etc. If you can help him in any way, he would deeply appreciate it. His address is: Ervin Mancil, Department of Social Sciences, Southeastern Louisiana College, Hammond, Louisiana.

Bob-White Protection!

By Robert Murry
Game Biologist

"I don't see how there is a quail left with all of them automatic shotguns and high powered dogs they got now."

The man on the stool to my left was addressing this remark to the owner of the small cafe who was busy putting my noontime hamburgers together.

Since it was evident that the several, somewhat less than "high-powered", bird dogs reposing in the back of the vehicle I had just parked, had prompted this comment, I was rather anxious for the man to go ahead and ask what sort of tomfoolery the "Wildlife" was up to now that it let employees use a state car to go hunting in . . . especially *out of season hunting*.

I am writing this because the man didn't do me right! Oh, he finally asked about the dogs, but before he did, he lectured me a full ten minutes on how "we wasn't never gonna have nothing until we took some of the advantages away from the hunter and gave them to the birds." Of course, I was trying to break in by then, to let him know that I was enroute to a research area to *count* birds, not to shoot them. Since it is considered rude to try to shout down the opposition in a friendly discussion in public eating places, and since I suspect that stashed away in the archives of the Wild Life and Fisheries building, in New Orleans, there is a policy frowning upon rudeness to citizens by its employees, and since I like my work very much, I was discreet. So blamed discreet in fact, that I let him pay for his coffee, and he stalked out without giving me a chance to use the Jim Dandy rebuttal that was jumping around in my head. That's how he wronged me, he jumped up and left before I had my turn.

However, I did get an answer to one question, which was, "How many quail did *you* kill last season?" He replied, "I ain't no bird hunter and I ain't fixing to be one." Then muttering something about somebody's grandchildren not having anything to hunt either, if this thing went on, he slammed the door on our new friendship.

My diplomatic proprietor then drew himself half a cup of coffee and came over to tell me about how somebody gave him a dog 12 or 14 years ago. He'd "took up hunting quail and found out quite a number of things." One of the first things he found out was why they had wanted to give the dog away. He had also observed that firepower alone will not get the job done. He had paid a slight assessment in J. P. Court and learned that his gun should have been plugged to three shot capacity. Three summers later the dog had been hit by a car. When the dog recovered, he carried a stiff leg, but slowed down enough to make "the smartest single dog you ever saw". The man had also settled down a little too, and learned to hit some of them and believed he would have been a bird hunter until this day if his dog hadn't a picked up a poison bait.

I got away without telling him about the dog I used to have which was better than most any dog he had ever seen.

Since all of this happened several years ago, I was set to fire all of the available information about the effects of hunting pressure as revealed by scientific studies made in other states since there still has been no Louisiana study aimed specifically at determining the amount of hunting pressure a quail propulation can stand. We do, however, have some pretty good, homegrown, information on the effects of protection on quail. I could sum all of this information into the simple statement that: "There is no readily discernible difference in the fall population of quail on an area afforded a long period of protection and the fall population on a like area subjected to unrestricted legal hunting annually."

That this concept of total protection in relation to quail populations has not been accepted by many hunters is demonstrated by the way hunters flock to a management area when it is opened to quail hunting after a period of closure. We have even had inquiries about whether or not a dog was necessary to successfully hunt birds on these areas. I'm looking forward to the day when someone shows up at a permit station with only a tennis racket and a sack. When

Some call Quail hunting the King of upland sport.

he does he will be issued a permit and will more than likely chalk up a score of zero, which added with other low success figures will continue to hold the average daily hunter success down to well below that reported by hunters who hunt the same covey ranges year after year, miles from one of these areas. This only demonstrates that even the well-equipped experienced quail hunter is often handicapped by unfamiliarity with the covey ranges on a strange area.

Please do not construe this to mean that you are not welcome to hunt on a management area unless you guarantee the permit station operator that you will be back in a few minutes with your legal limit of quail. On the contrary, the optimist with the tennis racket would be just as welcome as the party with a truck load of dogs. He should understand though, that the act of opening the area to controlled quail hunting is important in that it allows a partial harvest of the otherwise *wasted* surplus of quail that occurs on quail ranges annually through predators, natural causes, etc. Equally important, it guarantees some hunting opportunity for any hunter wishing to take the trouble to avail himself of the privilege. If you feel that participation in a management area hunt obligates the Wild Life and Fisheries commission to guarantee you a limit bag . . . Brother, you had better use that racket for *tennis*.

One prominent outdoor writer, who some time ago likened the hunting of these areas to, "shooting fish in a barrel", must surely not have had an opportunity to discuss quail hunting with any of the participants of a managed hunt. I have scanned all of the permits in vain, hunting for his name. If he ever does decide to take advantage of these "poor" management area quail I'm sure he will not lose sleep over the ease with which a limit is sacked up.

There has been some development work done for quail on each of the areas opened this year. This work has doubtlessly benefitted the total quail population and some portions of it will serve to attract birds making them more available to hunters. However, on both areas, timber growing should be recognized as the present primary land use. Each area has a problem deer herd and one is heavily grazed by cattle. These factors make intensive quail management difficult and expensive because of competition for the benefits of developments. The rather extensive quail development presently employed requires the use of much less than one percent of the total acreage of each area.

Let's see what protection plus the rather small scale development work has done to the hunter take during the managed hunts to date: In 1955, the 40,000-acre Red Dirt Game Management area of the Commission in Kisatchie National Forest was opened to a 15-day season after 18 years of closure. The 127 hunting efforts resulted in a kill of 400 birds or one bird per 100 acres.

During the 1957-58 season Red Dirt was again

A Setter on point will warm the heart of any bird hunter.

opened after only one season of closure. Then 266 efforts took 337 birds. The 18,000-acre Evangeline area was opened during the 1957-58 season for the first time in eight years. Here 177 hunters took 202 birds to set a record for the lowest (1.14 per effort) average success I have ever recorded.

Their own personal success on these hunts caused many of the hunters to suspect that the quail population had not compounded at the rate they were expecting. Despite the low average success some individuals hunted the areas several times with very good success. This was especiallly noticeable on Red Dirt where the 1955 season had given some of the more persistent hunters an opportunity to locate a few covey ranges. This year quail populations are better on each area and an even greater gain is expected in average hunter success.

Since our records indicate that refraining from hunting quail does not cause their density to create a traffic hazard we might go a little deeper into the records to see if we can get an idea of what was happening. First a look at a-recently-reported study of eight years of trapping and banding bobwhites on a sanctuary in Missouri. This revealed an average annual mortality of 82 percent of an unshot quail population. During the eight years, the population had ups and downs because of weather and other natural factors, but was considered essentially stable in that they wound up with about the same number of birds they started with. In other words, replacements equal losses and there is no change in the total population. When losses exceed replacements there is a loss in total numbers and when a reversal of this occurs there is, of course, a gain. With less turn over, essentially the same thing occurs in Louisiana on all of our quail ranges.

While the Missouri study showed essentially the same mortality rate for the sanctuary that occurs in annually hunted populations there, we apparently have a slight difference in both mortality and reproduction in Louisiana. Table No. 1 can be used to compare the birds by age groups and production per adult female. Since the "Outside" data were obtained from wings saved by cooperating hunters, the sex ratio is unknown. For this reason no production per adult female can be computed. It should also be noted that all of these data came from District III where both management areas are located. According to data gathered from throughout the state this district experienced an unusually low rearing success in 1956 when only 60 percent of the fall population was found to be made up of birds-of-the-year.

One characteristic of quail populations with poorer reproductive success is a high percentage of males. The 1957-58 data reveals that males made up 56 percent of the Red Dirt population and 59 percent of the Evangeline population.

To really understand and appreciate the effect of annual production in a hunting season let's make a hypothetical case for comparison: Take the 40 adults required to produce the 60 juveniles in each 100 birds examined in 1956 in District III, for convenience we will assign them an 80:20 young:old ratio. (slightly lower than that measured in 1955). If we assume survival of adults is equal, this will mean that each 20 birds produce 80 young instead of 30 as was the case in 1956. Since 40 is twice as large as 20 it would mean that the 40 adults would produce twice 80 or 160 young. The 160 plus the original 40 results in 200 quail for us to hunt instead of the 100. This makes quite a difference doesn't it?

Many people do not wish to becloud their thinking with any field information gathered anywhere except on their own "back forty." Some are especially antagonistic to "foreign" data, gathered in another state, unless it supports what they have believed to be true for many years. At the risk of alienating these people I would like to cite some data gathered in Arkansas. I hope the man who left before I finished my say back in the fall of 1954 reads this. He could have heard it then if he had stayed around. This Arkansas study was conducted by counting the quail each fall and spring on areas where the hunter kill was carefully measured. Complete findings were published, and included sex of birds bagged, number of birds left after hunting and the total fall and spring population. To simplify it for presentation here we will give the fall population, before hunting, a value of 100. The kill percent then will represent the number of birds the hunter was able to take home and the percent revival will represent the number of birds present on the area the following fall. We are able to carry two of the three areas through two complete seasons in this manner. The third area provides enough data for only one season complete with the revival for the following year:

Kill percent	*Revival percent*
55	93
51	74
74	79
33	136
65	138

You can see that the second lowest kill resulted in the lowest revival and the second highest kill preceded the highest gain. There is no pattern of correlation in these data between the kill one year and the fall population the following year.

The three areas contained 907 acres combined and at the beginning of the study had a total population of 248 quail. The last fall census of the areas prior to termination of the study revealed a population of 268 birds. What percent harvest do we get in Louisiana?

Growing recognition of the fact that the gun has often been over-rated as a factor in influencing population trends in small game populations has led your Wild Life and Fisheries commission to wisely liberalize quail regulations. Just how far we can safely go with liberalization is yet unknown. However, the enactment and enforcement of small game season and bag limit regulations will probably always be of great importance in making for a more equitable distribution of that surplus that usually occurs each year.

Being a "piney-woods" bird hunter, it is extremely hard for me to think about deliberately giving the birds any additional advantages. I am always in favor of betttering quail habitat so that their numbers will grow and grow.

So, Mister, if you read this you owe it to your own peace of mind to have a fling at bird hunting. Some

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RED DIRT

The third five-day managed deer hunt was held December 1-5 on the Red Dirt Game Management Area, Kisatchie National Forest in Natchitoches Parish.

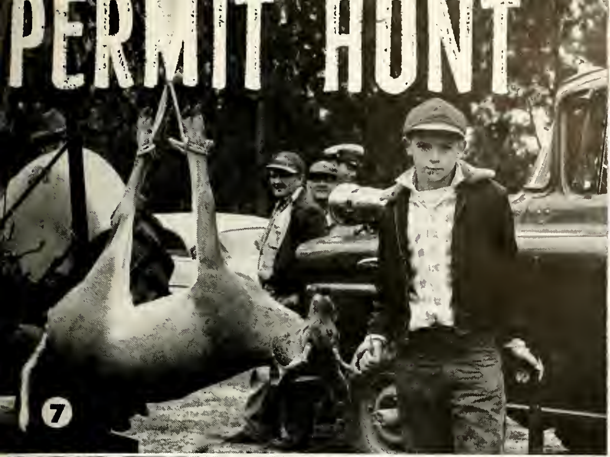
Approximately 900 hunters turned out opening day to try their luck and/or skill at "getting a big buck". Twenty-nine deer were taken the first day which is a considerable drop from the 67 total of opening day last year, but there were also considerably less hunters than the 1350 who attended the 1957 opening. More hunters cause more deer movement and thereby greatly increase the chances of those in the field. This progressive decline in hunter participation can be attributed to the opening of adjacent areas at the same time.

At present, the future of Red Dirt can not be determined. Changing ecology of this area, coupled with heavy deer population, has effectively reduced the carrying capacity of the range and a substantial reduction in the existing deer herd is imperative in order to maintain the range in present condition. The presence of "spikes", a predominant category this year, indicates a lack of nutrients brought about by shortage of browse . . . the inevitable result of overpopulation according to John D. Newsom, Federal Aid Co-ordinator for the commission.

At any rate, unless the population is brought to a level which the area can support, quality of the range will continue to decline as well as quality of the deer taken by the hunters, Newsom says.

1. "The early hunter gets the deer." At any rate, he gets through the permit station earlier and selects his stand in advance of the other hunters. This eager nimrod, after parking his car in line, earlier in the night, is dreaming of his buck.

PERMIT HUNT



2. Campfire, morning coffee, and tales of past experiences fill the gap from awakening time to official opening of the permit station.
3. Vanguard of the long line of eager hunters opening day checks in at permit station.
4. Licenses, temporarily exchanged for permits are returned to the individuals on their exit from the area.
5. H. R. Midciff of Lake Charles had the honors of bringing in the first deer . . . a 75# (field dressed) buck brought in at 9:00 AM opening day.
6. All deer are tagged at the checking station.
7. Seasoned deer hunters of many fruitless seasons looked on with envy as 13 yr. old James Delrie of Tioga checked in his 104# buck. James has been hunting since he was seven, but went deer hunting for the first time last season . . . had no luck then but "decided to give it another try".
8. Veteran hunter W. A. Weldon of Florien and his 95 pounder (field dressed weight).
9. General view of checking station.
10. Activity around scales where, in addition to weight, all information regarding location of kill, height, antler spread, etc., is taken.
11. Gathering data is function of Wild Life and Fisheries commission personnel at checking station. Here Joe Herring of the Monroe office is determining the age of a deer by examining the lower jaw while Clyde Harrison, Alexandria, is noting pertinent information.
12. C. D. Martin with his eleven point buck . . . best rack of the 5 day hunt. An additional day's trailing was necessary to recover this prize.

MANAGING DEER HERDS

By Louis Brunett
Game Biologist

DEER MANAGEMENT and all of its complexities not only involves managing deer but managing people as well. Managing deer is a relatively simple matter, but when it comes to both, especially when there is a tendency to manage deer by emotion, the problem becomes rather involved.

When it comes to managing deer, the general tendency is for people to want deer populations maintained at the highest possible level regardless of the consequences to the deer or the range they occupy. People are not aware of the changes that take place in vegetation that occupies a given area of deer range. These changes are referred to as ecological changes and in reality mean one plant or group of plants being continually replaced by another plant or group of plants. Some of these plants are usually those preferred by deer. On deer range, if the herd has exceeded the carrying capacity, this change in the plant community takes place at a much faster rate. Good deer food plants will be eliminated by the over-population of deer and will be replaced by plants that are much less preferred by deer.

Proper management of deer must be aimed at producing the following benefits:

1. The presence of both deer and deer habitat.
2. The continuation of a recreational resource in and face of human population increases.
3. The greatest sustained yield of deer.
4. Animals of higher quality.
5. The greatest over-all sustained yield from a multiple use standpoint for each acre of land.

The deer restocking program that the Louisiana Wild Life and Fisheries commission inaugurated in the winter of 1948-49 has been carried out annually ever since and has put deer in areas where there have not been deer for many years. It is safe to say that the deer herds that have resulted from the restocking program all over Louisiana are on the increase.

Perhaps you are wondering just what the deer stocking program and herd increase will mean to the deer hunter. It has already meant the opening of areas to deer hunting that have been closed to deer hunting for over 50 years. Within the next five to ten years people will be hunting deer in additional areas of Louisiana where there has been no hunting for many, many years. We in the State of Louisiana have something to be proud of in this increase of our deer herds. Are we going to manage these deer herds on the principles of good, sound game management and continue to have something to be proud of; or, are we going to manage them by emotion and let that lead us to the place where, if the word *"DEER"* is mentioned,

Biologists inspect deer killed on managed area.

we hang our heads in shame? It is up to each of us as individuals and all as a group, to work together and instill in ourselves and others the management of our deer herds by good sound deer management practices, much the same as a catttleman manages his herd.

There are certain steps that can be taken to increase the deer population in areas where the population is low or in newly stocked areas. With the present increase in deer herds, it is not necessary to dwell on these.

After a deer herd has been allowed to build up, will it be managed wisely so it will not eat itself out of house and home? Is the surplus going to be harvested annually so the deer will not destroy their own range?

We associate deer range with carrying capacity. By carrying capacity we mean the number of deer the range will support through the year without deterioration of the range. The cattleman knows when to remove some of his cattle from the pasture so it will not be over-grazed and result in loss of weight in his cattle. A deer range can be compared to this pasture. The removal of surplus animals should be carried out annually with an either sex (hunter choice) season, or by an antlerless deer season.

If you were to take a look into the forest, you would, no doubt, see many kinds of green plants. Will deer eat all of these? No, they will not. Deer are like people; they, too, prefer certain things to eat. Some of the preferred plants are yaupon, greenbrier, sweet bay, red bay, French mulberry, swamp dogwood, fringe tree, black gum, Japanese honeysuckle, large leaf gallberry, titi, arrow-wood, sassafras, and yellow jessamine to mention a few. But such things as sweet gum, some oaks, myrtle, hickory and pine to mention a very few are not desired and are considered starvation foods.

Areas occupied by pine, wax myrtle, sweet gum and scrub oak are some of the poorest deer range existing. If investigation of a deer range reveals browse signs on persimmon, sweet gum, pine and wax myrtle, herd reduction is long past due. This range for all practical purposes has been eaten up and is going down the drain. It would require many years of stringent herd reduction for this range to recover.

When an over-population of deer occurs it is all too little appreciated by sportsmen and out-of-doors people. The over-population situation is not only unfortunate, but is threatening to the future of the deer and their habitat. It is one of the most difficult problems to solve in deer management, not because of the deer, but because of the difficulty in convincing the people of the necessary herd reduction. The only successful method for deer herd reduction known to modern game management is well regulated removal of a certain portion of a herd through harvest of any deer.

A healthy buck from one of management areas.

An over-populated deer range can be easily recognized by technically trained personnel. The layman who knows what to look for can easily recognize the same condition. An over-populated deer herd has the following characteristics:

1. A smaller fawn crop.
2. Bucks have smaller antlers and poorer antler formation and it takes a buck a longer time and more food to grow legal antlers; there are fewer trophy heads.
3. The average weight decreases.
4. There is a high rate of natural mortality in the young and extremely old.
5. Parasites are always more prevalent and there is a greater likelihood of disease.
6. In agricultural areas crop damage becomes more serious.

In the minds of many people, "conservation" means to store away, to lock up, or to put up like fruit in a jar. This type of definition cannot be applied to living things like deer. Deer cannot be stockpiled like cans of beans on a shelf. Deer, like other animals, can only increase up to the limit of food and cover present on the range. Once the number of animals exceed this limit, losses from disease, parasites or malnutrition (plain starvation) and lessened reproduction will cause fewer deer and depleted range. If the surplus animals are not removed by hunting, nature will remove them harshly and wastefully. True conservation of wild animals is conservation through wise use. Is it wise to be content with taking 5 to 10 percent of a herd through a bucks only season and let the range go down the drain when we should take from 30 to 40 percent by an either sex season and keep our deer herd and range in the best of condition? Is it wise

Ageing deer is part of biologist's check.

Hunter reports kill at commission check station.

to take only the legal bucks and let nature wastefully harvest the rest?

The problem of a large deer herd versus crop damage is not a new one. Many states have experienced the problem for a number of years, trying various methods that proved unsuccessful in keeping deer out of the crops. Many states went to antlerless deer seasons and to hunter's choice (either sex) deer seasons, and got the problem under control.

In the August, 1958 issue of FIELD AND STREAM, Harold Titus in his article "More Hunting for Everyone" cites a classic example of crop damage by deer; how it was controlled, and still there were deer left for a higher hunter kill each season. Titus bases his example on Whidbey island that lies off the coast of Washington, in Puget Sound.

"The island is about three miles wide and 50 miles long. Twenty years ago the strawberry farmers on the island rose in wrath and demanded loudly of the state game commission and everyone else within earshot that the deer on Whidbey island be eliminated. Under the state's buck-only law, which applied to Whidbey as elsewhere, the deer had become a menace, said the farmers, consuming large quantities of strawberries without paying for them. The deer, said the farmers, must go.

"The game commission considered the situation. The annual take of deer on Whidley was only about 100, the deer herd there probably numbered only about 1,000. Isolated as it was, the island could be given special treatment in the law without affecting hunting anywhere else. The game commissioners shrugged. All right, they said, open up the hunting. Let Whidbey have an any-deer-law. That will do it.

"The next season, the deer take on Whidley was 380. The game commissioners smiled, satisfied. The deer were half gone already. The next year the take was 400. This time the commissioners did not smile. According to the numbers, there should be hardly any deer left. Yet reports indicated there were a lot left. The commissioners waited another year. The take was close to 500. Frowning, the commissioners investigated Whidley, to find out what in the world was going on. They found the deer herd in fine shape. In the 17 years since then, the harvest has averaged more than 500 a year. The herd is still in fine shape. There is no report on the shape of the strawberry warmers. With hunting as good as it is, maybe nobody cares any more."

If the herd remained at 1,000 deer before each hunting season, the 500 killed would be 50 percent of the herd.

In Michigan, deer damage at one time occurred extensively on fruit trees and fruit. A special antlerless deer season was inaugurated in 1949. Now out of the past 9 years there has been for 8 years a special antlerless deer season. Now Michigan reports this of the special antlerless deer hunts in the fruit country. "While the special seasons in this area are mainly to control deer damage in agricultural crops, they have also served to keep the deer herd in good condition while, at the same time furnishing considerable good hunting, as well as demonstrating that controlled shooting of antlerless deer will not exterminate a deer herd."

In some areas, Michigan has had antlerless deer seasons for many more years than that mentioned.

There are several states that do not have buck laws and they have a larger harvest of deer from the same size herds as comparable states.

You may say that what has happened in other states will not happen in Louisiana and also that you cannot compare Louisiana with the northern states. The same principles of deer management will apply just as well to Louisiana as they will to Michigan or other states wherever they may be.

We have an over-population of deer right here in Louisiana. The Madison and Tensas parish area is the best known. This deer herd grew from a few survivors of the 1927 flood. Those survivors were given excellent protection by the parish officials and landowners and the herd grew to its present size.

Crop damage has been occurring in this area since the mid 1940's. Each year the damage has become more severe. In this area the principal cash crops are soybeans and cotton. Many small farmers have been forced to switch to some other type of farming or to other jobs as a livelihood.

Until 1957, the damage on cotton was confined primiarily to bolls which were bitten and shattered from the plants as the deer walked among them. In 1957 deer beagn to eat young cotton plants when they first emerged. This was on a limited scale but it increased in 1958. In young plants the stems are eaten and many are pulled from the soil. This browsing continues on the plants until they reach maturity and then the squares and bolls are eaten and shattered from the plants.

When soybeans first emerge, deer walk the rows eating the young, tender plants. The plants are continually browsed until the beans mature, then the mature beans are eaten.

In the past, corn received damage from the roasting ear stage until maturity. In 1957 some plants received minor damage before the roasting ear stage. In 1958 corn plants were severely damaged.

In winter deer will graze on wheat and oats but as long as the soil is dry this grazing seems to do little

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Pass-A-Loutre Program is Successful

A group of hunters display their morning kill at one of the commission cabins on the Pass-A-Loutre public hunting grounds.

Dick Yancey and Allen Ensminger

DECOYS, PIROGUES and camps, scarred from 70 continuous days of wintry use, are presently being cleaned, painted and secured as the 1958-59 public shooting program at Pass-a-Loutre came to a successful end on January 9 at the close of the waterfowl hunting season in Louisiana.

The Pass-a-Loutre area, which comprises more than 66 thousand acres near the mouth of the Mississippi river, is a combination of semi-navigable waterways, pass banks, ponds, floats, shallow water bays, mud flats and marshes and is giant receiving station for ducks, geese and coots.

In carrying out the public hunting program, the Louisiana Wildlife & Fisheries Commission used a system of applications, drawings and permits to insure that everyone would have an equal chance to make a two-day hunt. A total of 1,141 permits were issued to hunters at $5.00 each as compared to 660 permits in 1956-57 and 569 in 1957-58. Out of the total number of permit holders 963 individuals made the trip to Pass-a-Loutre and they bagged 3,667 ducks. This averaged out at 1.90 ducks per hunter for each day's hunt and exceeded the state's average daily success figures considerably. The reason for the increase in the number of duck hunters and hunting success was twofold. The marsh was in better shape and attracted more ducks and the fee for the trip was reduced from $10.00 to $5.00.

Even at the original fee of $10.00 the trip to Pass-a-Loutre offered the best "duck hunting buy" to be found anywhere. In exchange for the small cost the Louisiana Wildlife & Fisheries Commission provided boat transportation from Venice, Louisiana, to Pass-a-Loutre and return. At Pass-a-Loutre a comfortable camp, cooking gear, decoys, duck boats, butane cooking system, plus the two-day hunt on one of the finest hunting marshes was provided. Where else could such a bargain be obtained in this day and age?

A total of 19 two-day hunts were managed during the 70 day hunting season. Out of this number a maximum of 72 permits were issued for 11 hunts. Vacancies were available on 8 trips and these were primarily for those held during the week days.

A wide variety of ducks were bagged during the season. Of the number examined, 48% were gadwall (grey duck), 35% were American Widgeon, 7% were pintail, 4% were mallards and the remainder were shoveller, blue-winged teal, green-winged teal, mottled ducks, scaup, ring-necked ducks, canvasback and redheads. Most of the diving ducks were taken during the closing days of the season.

Waterfowl retrievers were permitted as part of the public shooting program this season for the first time. A total of 47 dogs were used by hunters and this reduced the overall crippling loss of ducks. The use of retrievers is a very sound conservation measure and greatly adds to the sport of waterfowl hunting. For this reason the Louisiana Wildlife & Fisheries Commission decided to permit their use during the past season.

In addition to the section of Pass-a-Loutre reserved for the public camps, one-third of the 66,000 acre area was open to those who wished to make a hunt using their personal equipment and facilities. A total of 854 free 4-day permits were issued to 229 hunters to hunt in the Blind Bay section of Pass-a-Loutre. Frequent patrols were made to insure against violations

More than a thousand hunters boarded the popular boat, "TARPON" for passage to the Pass-A-Loutre Area.

but an inventory of the total kill was not made.

The season just ended was a culmination of extensive preparations made during the summer and fall of 1958. Over one hundred earthen dams were constructed along the many pass banks between South Pass and Pass-a-Loutre through the use of the Commission owned dragline. This was done in order to encourage the production of waterfowl food plants by restricting drainage of the marshes during low tide in the river and by reducing the reverse flow of salt water from the passes into the marshes during the late summer. In those marshes where water conditions were partially stabilized excellent stands of desirable aquatic vegetation were produced. This served to not only attract but hold a high waterfowl population through the duck season. An aerial census just prior to opening day revealed the presence of 40,000 ducks.

The pass banks produced a dense stand of vegetation during 1958 due to favorable conditions and the fact that cattle grazing was minimized. Since the nutria population was greatly reduced from previous years this factor also favored re-vegetation. In the event of a high river in 1959 a much needed build up of the pass banks should occur as heavy siltation will occur in the dense grass cover.

In addition to the marsh management work considerable repairs were effected on the 9 public camps in 1958. The inside of several was re-covered with plywood and painted. Some leaking roofs were replaced and the outside coverings were painted where necessary. Indoor toilets were added and running river water was provided to this and the sinks in the kitchens. The grounds were built up considerably around most of the camps in order to provide a semi-dry walking area. Silted in ditches to the shooting ponds were re-excavated and earthen plugs then installed at the pass banks in order to prevent an active flow of water between the river and the marsh ponds. All camps and cisterns were thoroughly cleaned before the hunting season started on November 1.

The reward of these efforts was a highly successful duck season that was enjoyed by a large number of Louisiana's sportsmen. Post season aerial surveys proved that large numbers of ducks were left over at Pass-a-Loutre following the last hunt. With reasonable luck on the nesting grounds this summer these survivors should return with a supply of progeny next fall. With this anticipation, plans are already being made to further improve the marsh and camping facilities during the coming months.

Those who may be interested in taking advantage of the opportunity to hunt at Pass-a-Loutre during the next duck season should refer to the September issue of the LOUISIANA CONSERVATIONIST.

Afternoons are devoted to fishing and spotting resting areas of ducks.

FISH MIGRATION

by David Gunston

Migrations in nature are popularly associated with birds and less commonly with animals, but of course fish generally undertake considerable migratory journeyings, many of which are quite as remarkable as those undertaken by birds. Just as there are virtually no completely non-migratory birds, so there are hardly any fish that make no migrations at one time or another during their life cycle, save for the enforcedly static inhabitants of small self-contained lakes or ponds.

It is generally accepted that the reasons why birds and land animals migrate are to obtain food and to a lesser extent, to visit those regions most suited for their breeding. But while both these factors influence the movements of fish, many other reasons for fish migrations may be traced. Few fish are natural nomads, wandering about the waters aimlessly. Always there is present one or more reasons why a fish, singly or in company with others of its kind, sets off on a journey.

The temperature of the water in river, lake or sea vitally affects the fish, as does the amount of sunlight that may penetrate the surface. Other physical factors that may set the migratory instincts in motion are the varying salinity of the water, its acidity or alkalinity, its oxygen content, the turblence or otherwise of currents, as well as the age, power of smell and even the faculty of memory of the fish concerned.

Fish migrations usually follow definite patterns, and may be of four separate kinds, though some fish pursue more than one. These are the movements from salt water to fresh, and vice versa, and internal migrations within salt or fresh water.

The best known example of a salt to fresh water migrating fish is the salmon, which must return from the sea to the fresh waters of a river before it can spawn. Atlantic salmon often travel many hundreds of miles to reach their redds in Europe, while Pacific salmon may journey thousands of miles before attaining their North American river spawning grounds. Movements into fresh water are usually mass ones taken for breeding purposes, as with salmon, sea-trout, lampreys and other fish, notably eels. These last, of course, make migratory voyages that are unique: after starting as eggs spawned off the Bermudas, they move some 3,000 miles or so by a strange process of first drifting and later swimming, growing all the time and eventually entering rivers as elvers. Both sexes of eels migrate to the uppermost reaches of their chosen rivers, the females of American eels having been known to run upstream for 1,500 miles from the sea, reaching altitudes above 7,000 ft. Sturgeon, mullet, flounder and other fish occasionally enter rivers, but only after food.

The fish that leave fresh water for salt may be of several different groups. They may be salmon or sea-trout spent after spawning, some of which in Europe regain the sea and build up again after continuous feeding, though Pacific salmon, like all lampreys, invariably die after spawning. They may be the new young of these selfsame fish instinctively seeking marine waters, or they may be eels in the mature silver stage leaving their rivers by night on the long fast trek back to the Sargasso Sea to reach fulfillment in procreation, and eventual death. Keeping to the slowest currents and never feeding en route, they nevertheless cover immense distances very quickly: recoveries of marked eels have given such feats as 174 miles in 19 days and 750 miles in 93 days. Or they may be the odd river-breeding fish that drop down to the edges of the sea either to feed, or more rarely, like char and perch, to breed in brackish water.

With all fish moving between completely fresh water and the sea, the swim-bladder becomes adjusted to the new water density gradually, which is one of the

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LOUISIANA

By Dick Yancey

Green-winged teal are numerically one of Louisiana's most important species of puddle ducks. In quantity the population ranks closely behind mallards and pintails. During recent years an average of 425,000 of these small ducks have wintered in Louisiana. In addition many more have stopped over temporarily during the fall migration while en route to points further south.

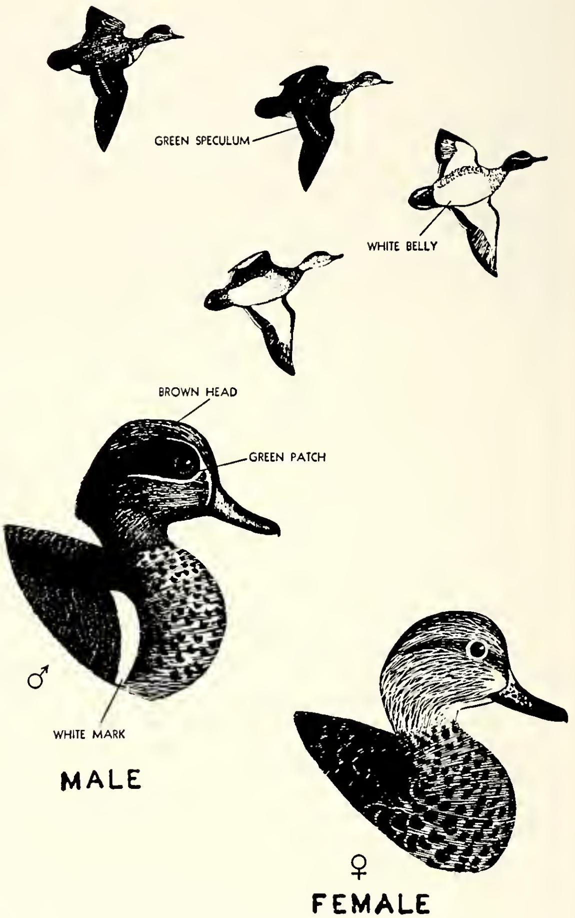
The coastal marshes of Louisiana attract the only important wintering concentration of green-winged teal to be found in the Mississippi Flyway. During the past few years 90 percent of the flyway's green-winged teal population has been found in south Louisiana during the late winter months.

Bag checks conducted by the Louisiana Wildlife and Fisheries Commission since 1950 have revealed that green-winged teal make up about 8 percent of the ducks killed by sportsmen during an average hunting season. This is a fairly small percentage since they generally make up almost 20 percent of the state's duck population.

Several reasons may be set forth to explain the fact that these ducks are not being bagged by hunters in equivalent numbers. The rather limited distribution of the species over the state is the primary factor involved. At least 95 percent of the state's population winters only in the coastal marshes and rice fields. Even then their distribution is rather localized since they tend to concentrate on huge flocks. On one occasion approximately 40 percent of the entire population was found in an area of no more than 4 square miles and this was inside a waterfowl sanctuary. Another possible reason would be that most hunters generally select larger ducks to fill out a bag limit if they are available.

GREEN-WINGED TEAL

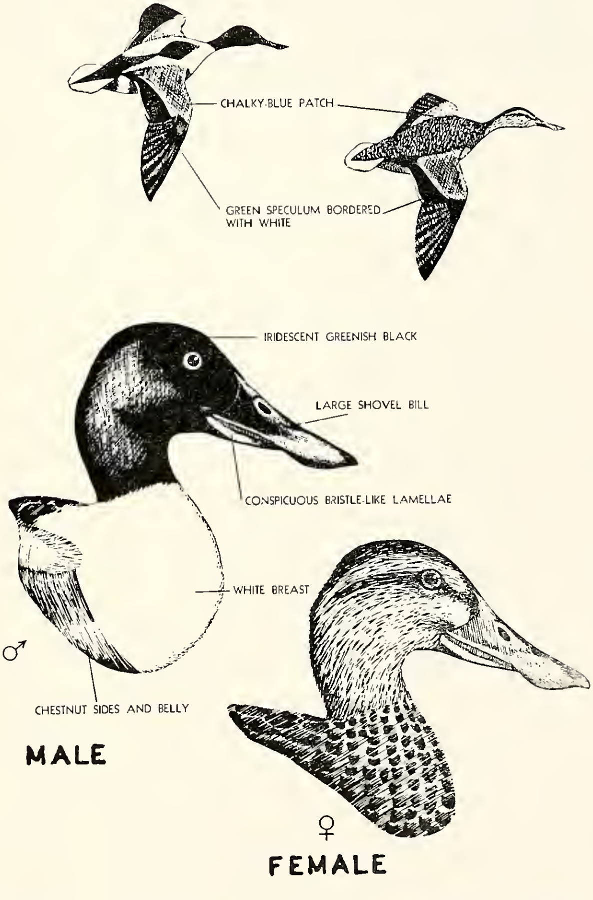
(Anas carolinensis)



A few green-winged teal always migrate into Louisiana by mid-September. Small numbers continue to arrive through late September and all of October. The first major migration normally takes place about November 1. By mid-November the movement of teal into Louisiana is usually complete. The spring departure generally begins in early March. Small numbers may still be seen in the state as late as mid-April but their departure is considered to be virtually complete by that time.

Green-winged teal feed extensively on small forms of marine animal life as well as plant material. They are especially attracted to exposed mud flats covered by a thin layer of water. During recent years great concentrations of teal have used the sale scalded marshes south of Pecan Island in Vermilion Parish. Other areas carrying high populations have been the Audubon and State Wildlife Refuges, the Belle Isle Bayou marshes, the Rockefeller Wildlife Refuge, the Sabine and Lacassine National Wildlife Refuges, the Marsh Island Wildlife Refuge, Point au Fer Island, Avoca Island, and the marshes located at the mouth of the Mississippi River. In North Louisiana, Catahoula Lake generally attracts a small concentration.

WATERFOWL



SHOVELER

(Spatula clypeata)

CHALKY-BLUE PATCH
GREEN SPECULUM BORDERED WITH WHITE
IRIDESCENT GREENISH BLACK
LARGE SHOVEL BILL
CONSPICUOUS BRISTLE-LIKE LAMELLAE
WHITE BREAST
♂
CHESTNUT SIDES AND BELLY
MALE
♀
FEMALE

The shoveller or spoonbill is another important species of waterfowl wintering in Louisiana. Normally as many as 125,000 will winter in the state. Most of the shovellers that arrive in the fall are transient and stop over only temporarily before migrating further south.

A few generally appear in Louisiana by mid-September and small additional flights continue to arrive until November 1. On or within a few days of this date the first major migration takes place. Many of the new arrivals progress completely through the state, while others stop over in the coastal marshes. By mid-November the fall migration is generally complete.

The spring migration back to the nesting grounds, in the prairie provinces of western Canada, usually gets underway about March 1. This migration reaches its peak about mid-March. New arrivals of transient shovellers from the south mix with the state's wintering flocks during this period causing a peak population for the season.

After mid-March the shoveller population rapidly declines in Louisiana. The spring migration is usually complete by May 1, although small numbers may still be observed as late as May 15.

The primary concentrations of shovellers wintering in Louisiana are to be found along the most southerly coastal marshes of southwest Louisiana, and at the mouth of the Mississippi River. Mud flat areas covered by a thin layer of water are very attractive to shovellers. In southwest Louisiana, tidewater lakes having wide exposed shorelines are heavily used. At Cheniere au Tigue the coastline frontage attracts large numbers on a low tide. This is one of the few places along the Louisiana coast where accretion is occurring and as a result widespread soupy mud flats are available for use by shovellers.

In the inland marshes they are most frequently found using ponds heavily productive of widgeon grass and other aquatic vegetation. In feeding, these ducks use plant materials, primarily, in the ponds and animal matter on the mud flats.

Hunter bag checks conducted since 1950 show that shovellers make up approximately 4 percent of the overall kill of ducks. This is fairly consistent with the percentage that they make up in the wintering population.

Shovellers are rather easily bagged but hunters generally select other species if they are available. These ducks are to a degree looked down upon for table use even though they are usually just as good as most of the others for this purpose. Many are shot, left in the marshes, and wasted because of this misconception.

As We See It

Many persons have inquired about the aims and purposes of the Louisiana Wildlife Federation. It is well, at this time, to review the objectives of the Federation and, appropriately, we refer to the Autumn 1940 issue of the LOUISIANA CONSERVATION REVIEW (predecessor of THE LOUISIANA CONSERVATIONIST) from whose report on the organizational meeting of the Louisiana Wildlife Federation we quote:

This organization is a non-political, non-profit group of civic-minded men and women interested in the basic principles which underlie constructive conservation. A few of these principles are as follows:

1. Administration of our wildlife resources by a competent and trained personnel.
2. Hunting and fishing license funds to be spent only by the Conservation Department (now La. Wildlife and Fisheries Commission).
3. Commercial fishermen, trappers and landowners work under practical conservation laws and be given protection of their property.
4. The conservation laws be enforced by a trained, full time force of agents.
5. That the natural habitat of fish and game be protected and improved and that a sufficient supply of game and fish always be elft in our lakes, stream, fields and forest so that nature can carry on its natural propagation.

The only laws we are interested in as an organization are those that directly affect the fish and wildlife of our state.

We believe that local Conservation Clubs can accomplish a great deal in their communities by practicing ethical hunting and fishing and requesting their members and local officials to respect and enforce the law.

We shall always strive to increase the supply of fish and wildlife so we can keep our present bag limits or increase them.

We will use every effort to secure the adequate administration of justice and to decrease violations of the fish, game and conservation laws.

We promote good will between sportsmen and between sportsmen and commercial fishermen, trappers, farmers and landowners.

THE OBJECTIVES of the Louisiana Wildlife Federation have never changed. Looking back over the past twenty years we are impressed with the wisdom of our founders in charting a course from which we have not found it necessary to deviate.

We look back with pardonable pride on our accomplishments over the years. We pledge continued progress along the lines of our objectives and invite all civic-minded citizens to join with us towards the realization of our common goal.

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20TH ANNUAL CONVENTION

The 20th annual convention of the La. Wildlife Federation, Inc. will be held at the Capitol House in Baton Rouge on February 20, 21 and 22. A most attractive program has been arranged. The general public as well as all members of the Federation are invited to attend.

Registration will begin at noon on Friday, February 20th. There will be a meeting of various committees and the Board of Directors in the afternoon. The convention will be called to order at 7:30 P.M. and this session will feature the reports of the officers, a panel discussion, and the keynote address. The theme of the panel discussion is "Looking Back" at which time the following topics will be presented: Twenty Years of Louisiana Wildlife Federation Activity, Twenty Years of Wildlife Administration, Twenty Years of Fish and Game Research. The keynote address "Planning Ahead—The Federation's Task For the Future" will be delivered by Mr. A. B. "Bud" Jackson, Director of Field Activities, National Wildlife Federation, Washington, D.C.

Registration of the 250 delegates and members expected for the session will continue on Saturday. Saturday morning will be devoted to the various committee meetings which shall consider proposed changes in wildlife laws, seasons and bag limits, and other conservation topics. A total of 11 committees meeting at staggered intervals will be held during the morning session which will allow ample time to fully discuss all topics.

The annual luncheon will be held at noon on Saturday. The complete Saturday afternoon session will be devoted to panel discussions and addresses. Some of the addresses are: "Are Louisiana's Forest Lands Wildlife's Last Frontier?"; "What Benefits To Wildlife Can Be Expected in Corps of Engineer Projects Of The Future"; "Wild Life and Fisheries Commission Plans For The Future". The topic of the panel discussion is "The Role of Industry in Wildlife Preservation" with speakers representing the Forest, Seafood, Oil, Recreation industries.

The Saturday evening session will be devoted to consideration of the resolutions adopted by the various convention committees. It is here at this open forum the final vote will be taken on conservation problems which will determine the policy of the Federation for the year.

The Board of Directors will meet Sunday morning and new officers will be elected at this session. The open forum will be conducted again and after the newly elected officers are introduced the various awards and trophies given by the Federation will be presented. The convention is scheduled to adjourn at noon.

Representatives of the U. S. Fish and Wildlife Service, the National Wildlife Federation, the Wildlife Management Institute, the Sport Fishing Institute are expected in addition to the many persons who will attend the meeeting from Louisiana organizations.

A special invitation is being extended to the "founding fathers" of the Federation who in 1939 laid the foundation for the forming of the Federation. Several of the signers of the articles of incorporation and several members of the first board of directors are scheduled to take part in the program. And don't forget, you are also invited to attend. The date is February 20-22 in the Capitol House, Baton Rouge.

FISH AND WILDLIFE COORDINATION ACT EXPLAINED

The new fish and wildlife coordination Act passed last year by Congress (and strongly supported by our Federation) is "the most important conservation legislation in a quarter of a century. The success or failure of operations under the new Act may pretty well determine whether or not we shall continue to have fish and wildlife resources in this nation as we know them today," said James McBroom, chief of the branch of river basin studies of the U.S. Fish and Wildlife Service. McBroom directs the Service's investigations of the effect of the Federal water development projects on fish and wildlife and their habitat.

"The Act is a milestone in the water-resources legislation of the Federal Government," McBroom claimed. He pointed to its 12 major provisions to show the gains that have been made. They include congressional recognition of equal partnership for fish and wildlife in water development programs with other project purposes; authority to withdraw public lands for both public fishing and shooting purposes; authority to accept donations of lands and funds; application of the Act to all kinds of projects undertaken by a Federal agency or under Federal permit; and planning by Federal and State wildlife agencies to enhance and improve fish and wildlife resources at water projects.

Other significant points are that construction agency reports to Congress on changes of previously authorized projects must include reports of effects on fish and wildlife; authority for Federal construction agencies to include conservation measures for fish and wildlife in previously authorized projects; authority to alter projects and project operations on behalf of fish and wildlife; the acquisition of lands for fish and wildlife purposes by project construction agencies; all reports to Congress on projects must include estimations of the effects of development of fish and wildlife; simplification of the procedure whereby State wildlife departments can take over lands found valuable for the national migratory bird program; and amendment of the small watershed Act so that fish and game resources are assured greater recognition in that national program.

The Act does not give wildlife agencies veto power over Federal water-resources programs or projects. The Act does not require the Federal construction agencies to adopt recommendations of the Fish and Wildlife Service and the State fish and game departments.

"Results will still have to be obtained by logic, by reason, and by technical soundness in presenting the case for fish and wildlife conservation," McBroom said. "The new Act is positive but permissive legislation. It provides for no strengthening of any concept of a conservation police force.

"There is at once apparent, nevertheless, a very serious remaining gap in the legal foundation for fish and wildlife conservation in river basin development. It is the failure of State water law generally to recognize the use of water for fish and wildlife conservation purposes as a beneficial use. Unless this is corrected, the gains for fish and wildlife conservation that we foresee from the new fish and wildlife coordination Act may be largely a mirage." Which is another way of saying, unless this is corrected you'll be lucky if you see four ducks a day while in your blind.

McBroom stated that many people feel that State water laws do not adequately support State responsibilities for fish and wildlife resources. And that State fish and game departments with the support of sportsmen are going to have to play the key role in alleviating this situation.

"The new Coordination act is only a skeleton framework for the conservation job it is designed to do. It needs the flesh, the muscle, and most of all, the brains of the men in the State and Federal fish and wildlife agencies to bring it alive."

PROBLEM OF FISHING ACCESS SITES IS GROWING

During the summer months this year it was more apparent than ever that a complete study is soon going to have to be made on the problem of fishing access.

The serious fishermen of the state would like to see some action taken soon in order to keep pace with the increased demand for more (and better) public access sites. Most bodies of water are surrounded by lands in private ownership and that's no assurance that the landowner will forever let anglers cross his lands to dangle a minnow or cast a lure. The best insurance is to study the problem now and work towards a fair solution.

Some access sites offer fair swimming conditions or boating too, and as a result take on the appearance of a day at the beach, instead of a fishing or launching site. There must be some middle ground somewhere and the Louisiana Wildlife Federation pledges it will work towards an equitable solution. Do you have an access problem in your area? If so let us have the details. Write us, care of the CONSERVATIONIST editor.

BOB-WHITE PROTECTION

(Continued from Page 11)

evening when you are giving a lot of attention to blistered feet and cramped legs you might get to meditating a little on just where the advantage lies.

TABLE I

AREA	*SEASON*	*% YOUNG*	*% ADULT*	*YOUNG PER ADULT FEMALE*
Red Dirt	*1955-56*	*78*	*22*	*7.6*
Outside	*1955-56*	*82*	*18*	*unknown*
Red Dirt	*1956-57*	*unknown*	*unknown*	*unknown*
Outside	*1956-57*	*60*	*40*	*unknown*
Red Dirt	*1957-58*	*73*	*27*	*7.5*
Evangeline	*1957-58*	*65*	*35*	*5.8*
Outside	*1957-58*	*78*	*22*	*unknown*

MANAGING DEER HERDS

(Continued from Page 16)

damage; if the soil is wet plants are trampled into the mud.

Family gardens and even shrubs around home sites have received terrific damage from browsing deer.

It is hard to determine the total crop damage in dollars and cents; however, in 1957, 25 farms in this area ranging from 100 acres to 6,000 acres in size were surveyed by biologists of the commission. Of the 25 farms surveyed, crop damage estimates were received from fifteen. The estimated annual deer damage on these 15 farms was approximately $60,000.00

Farmers of the area are not the only ones receiving damage from deer. Forest reproduction has been heavily browsed and in places seedlings of desirable commercial trees are being killed.

An over-population of deer should never be allowed to happen. The old saying "an ounce of prevention is worth a pound of cure" certainly is in order for a growing deer herd. Any deer herd should be kept below the actual carrying capacity of the range. The only way to do this is to have a well-regulated ANY DEER SEASON.

The most practical and efficient way to reduce the size of a deer herd is to let the hunter do it. It is a problem to educate the people to an ANY deer season. It is hard for many to understand that peak deer populations cannot be maintained on any range for long and that the longer they are kept, the fewer deer there will be afterward.

The sooner we have more ANY deer seasons the better it will be for our deer herds and their ranges, the greater will be the hunter success and more trophy racks of antlers will be taken.

FISH MIGRATION

(Continued from Page 19)

reasons why a sudden artificial change proves disastrous for most fish.

Sea fish may make the most immense journeys, as we know from lengthy experiments with marked plaice, cod and herring. Plaice and herring movements may be measured in hundreds of miles, but those of many cod are far more extensive, particularly to and away from the great breeding-grounds off Iceland, Newfoundland and the Lofoten Banks. The movements of cod and herring to warmer or cooler waters, from shallow to deeper and richer feeding-grounds, have probably been studied more closely than any other fish migrations owing to their commercial importance. Some other fish, notably mackerel, make extensive migrations on the vertical plane which may be quite striking.

Similar mass movements to and from deep water, though on a smaller scale, are the regular practice of many freshwater fish, especially those like carp and chub which spend cold winters in a semi-torpid state at depths of 90 ft. or so. Freshwater fish also tend to drop back into the depths after spawning exertions have been completed, while many lake fish instinctively prefer to deposit their eggs up tributaries, where the more aerated running water provides better conditions for the fry. Other fish, perhaps moving individually, may cover fairly considerable distances across inland lakes or along rivers, and few fish live a static existence all their lives. Trout are great inland travellers, while carp and bream make less conspicuous but to them equally important migrations into shallower water each summer.

The reasons for all these migrations may sometimes be simple, but are often complex. The need for food is the primary simple reason, but it leads to big migratory movements chiefly in gregarious fish like cod and herring. Fish living in small groups find food needs less pressing, but they may be especially sensitive to temperature changes. For example, the shad is so sensitive to temperature changes that in some glacial tributaries it swims along the warmer side of the stream, where in fact the water may be only 4° warmer. Refusing to move up rivers unless their temperature is higher than that of the sea, it therefore keeps to a progressive time-table for its runs up American rivers: in Florida these start in November, in New Brunswick as late as the end of May.

The varying degrees of salinity in the water affect fish movements a great deal. All members of the mullet tribe have strict tolerances of salt content, moving about only within their special limits. And of course salinity greatly affects floating eggs, many of which if laid in the sea may sink and die if they drift into the less dense coastal waters.

Salmon are notoriously sensitive to currents and the overall turbulence of their waters, lingering perhaps for weeks at the mouth of a river until a vigorous stream of fresh water encourages them to run upstream. Old fish tend to stay longer in rivers before dropping back into the sea after spawning than the more active younger fish. This is notably true of sea-trout, which in their prime may enter a river and spawn and return to the sea within 24 hours.

Squirrel Hunts in Union Game Management Area

Louisiana Wildlife and Fisheries commission game agent James Hamilton of Downsville is shown above and below checking squirrel hunters who participated in the Union Parish wildlife management area supervised hunt on that area from October 4th through October 10th, when 178 hunters harvested 343 squirrels for an average of approximately two squirrels per hunting effort. Two hundred ninety-one grey and fifty-two fox squirrels were harvested during the seven-day hunt.

(Photos by Joe Herring)

A Hunter Picks Up the Last Duck As the Waterfowl Season Comes to a Close in Louisiana

Photo by Steve Harmon